

REMARKS/ARGUMENTS

Claim Rejections Under 35 U.S.C. § 103

A. The Examiner rejected claims 1-5, 7, and 8 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,397,683 to Roland in view of U.S. Patent No. 4,929,402 to Hull. Applicant respectfully traverses this rejection.

The reference to Roland does not provide teaching concerning the use of a model formed by a stereolithography process. Further, the reference does not suggest the use of an SLA model. Rather, the reference teaches a substrate having a photosensitive layer attached thereto available from a commercial source and known as “PRINTIGHT.”

The reference to Roland does not teach or suggest that the process is used to form a prototype plastic model as in the instant invention. Therefore, there is no suggestion to apply the teachings of the Roland reference to an object formed according to the reference to Hull as the Examiner suggests.

Models formed by stereolithography, have indefinite surface appearances. There is no suggestion in either of the cited references to add detailed surface features to rapid prototyping suggested by Hull. Applicant provides rapid prototype models having surface features that mimic finished products. Such innovation is not taught or suggested by the references.

Further the reference to Roland teaches applying a decorative coating to the photosensitive layer prior to adding the photo emulsion layer. Following step 11, the image is inspected for proper color. If necessary, steps 2-11 are repeated, meaning that another layer or decorative coating is applied prior to adding an additional photo emulsion layer.

In Applicant’s amended claim 1, the step of coating the surface with a photo resist provides a building up the photo resist in layers with sufficient drying time between the

layers. The combination proposed by the Examiner does not teach or suggest applicant's invention.

The reference to Roland teaches using a commercially prepared substrate. The first application of the photo emulsion layer in this reference occurs at step 5. Step 5 follows the application of a pre-coat powder. Therefore, this reference actually teaches away from cleaning the surface before applying the photo emulsion layer. A combination with the reference to Hull does not cure the inadequacy of the Roland reference as applied to applicant's claims.

The Examiner states that Roland teaches applicant's claim 5. However, the process disclosed in Roland begins with a commercially prepared substrate. Roland adds a decorative coating and a prep-coat powder before applying a photo emulsion. After exposure, applying emulsion developer, drying, applying ink developer, the object is inspected for color. At this point, the process in Roland may be repeated. The repetitive process does not include an immediate application of photo resist. Rather, the process repeats starting with addition of more decorative coating.

Further, the reference to Roland teaches that in step 12, the hardened emulsion layer 38 over the latest decorative coating layer is removed by a photo emulsion image remover. This step of removing the hardened photo resist layer teaches away from applicant's invention.

Therefore, applicant's invention is not obvious in light of the cited references. The references are not properly combinable and Roland teaches away from the claimed invention.

B. Claims 2-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent 4,914,004 to Kohler in view of US Patent 4,929,402 to Hull and further in view of Roland.

Kohler provides a process for the production of polymeric coatings from a two-layer system comprising a layer which has been applied to a substrate and contains initiators and a superposed layer containing polymerizable monomers or oligomers. There is no teaching or suggestion to apply “*said photo resist in more than one layer and allowing sufficient drying time between successive layers*” as set forth in claim 1, as amended.

Further, Applicant’s claimed invention begins with a model formed from a stereolithographic process. The model is then modified by the photo resist process. A combination of Kohler and Hull does not provide the claimed features.

None of the cited references teach or suggest adding additional photo resist in order to soften the edges of a raised feature. The reference to Roland teaches removing the outermost hardened layer of photo resist.

CONCLUSION

In response to the Office Action dated June 27, 2003, claim 1 has been amended and claims 2-3 have been canceled. It is believed these changes have placed the pending claims in conformance with the requirements of the Office Action. At this point, applicant believes that the claims remaining in the case distinguish over the art cited and comply with the requirements of 35 U.S.C. §102, §103 and §112. As such, allowance of the claims is respectfully requested.

Respectfully submitted,

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